WE CLAIM:

1. An ink distribution assembly for a printhead, comprising:

a duct cover in which is formed a number of inlet ports;

each inlet port being associated with a cross flow channel that extends from a port to a duct opening;

the duct cover sealing against a distribution molding, the distribution molding having a longitudinal axis and a number of ducts running in parallel along the axis;

each duct opening of the duct cover being located in registry with only one duct so that each port is in fluid communication with only one duct;

all of the ducts having a lower duct portion which is sealed against and in fluid communication with an upper layer of a laminated ink distribution structure;

the laminated ink distribution structure having a first layer in which is formed a number of first holes, each first hole being in registry with a lower duct portion;

the laminated ink distribution structure having a number of subsequent layers, each subsequent layer having vertical passages and transverse channels for bringing a fluid from a duct, via the first layer, to one of a number of printhead chips located as an array in a chip restraining layer.

2. The assembly of claim 1, wherein:

a subsequent layer in the laminated ink distribution structure comprises an electrically conductive film which is electrically connected to the chip, which film extends out of the laminated ink distribution structure and extends to make electrical contact with a printhead controlling printed circuit board.

3. The assembly of claim 1, wherein:

the laminated ink distribution structure further comprises a laminated manifold for distributing liquids from a number of ink holes in a first layer to a greater number of ink delivery locations associated with the printhead chips.

4. The assembly of claim 3, wherein:

the first layer and subsequent layers further comprise air distribution passages which carry compressed air to a location near each of the printhead chips.

5. The assembly of claim 1, wherein:

a subsequent layer comprises a final layer in which is formed an array of chip slots for receiving the printhead chips.

6. The assembly of claim 5, wherein:

the chip slots each receive a nozzle guard assembly that protects an associated printhead chip.

7. The assembly of claim 6, wherein:

the first layer and subsequent layers further comprise air distribution passages which carry compressed air for discharge at locations between each of the printhead chips and the nozzle guards.

8. The assembly of claim 1, wherein:

the laminated ink distribution structure further comprises layers of a micro-molded plastic forming a distribution stack in which transverse channels in one or more layers lead to and from through holes which carry ink between layers.

9. The assembly of claim 1, wherein:

the printhead has a longitudinal axis and the individual printhead chips are arranged at an angle to the longitudinal axis of the printhead, with a slight overlap between each print chip which enables continuous transmission of ink over the entire length of the array.

10. The assembly of claim 1, wherein:

the distribution molding is located between the duct cover and the laminated ink distribution structure within a chassis; and

the laminated ink distribution structure having a layer in which is located a plurality of printhead chips which are controlled by the printed circuit board, the chips dispensing ink into a paper path which passes through the chassis.

11. The assembly of claim 1, further comprising:

an air duct within which is located an air valve molding formed as a channel with a series of apertures in its base; and

the apertures having a spacing corresponding to air passages formed in the air duct so that the apertures can be brought into and out of alignment with the passages to selectively allow pressurized air through the laminated ink distribution structure to a cavity located between the a chip and a nozzle guard.

12. The assembly of claim 11, wherein:

the air valve molding is movable longitudinally within the air duct; compression springs maintaining a sealing inter-engagement of a bottom of the air valve molding with the base of the air duct to prevent leakage.

13. The assembly of claim 11, wherein:

the air valve molding has a cam follower extending from one end, which engages an air valve cam surface on an end cap of a platen so as to selectively move the air valve molding longitudinally within the air duct according to a rotational positional of the platen.

14. The assembly of claim 13, wherein:

the platen may be rotated between printing, capping or blotting positions.

15. The assembly of claim 14, wherein:

the platen has a position for printing in which the cam holds the air valve in an open position to supply air to the print chip; and

when the platen is rotated to a non-printing position, it caps off a plurality of micro-apertures in the nozzle guard.

16. The assembly of claim 13, wherein:

the platen member is rotatable and extends parallel to the printhead, supported by a rotary shaft mounted in a bearing molding.

17. The assembly of claim 13, wherein:

the platen member has a platen surface and a capping portion and an exposed blotting portion.

18. The assembly of claim 14, further comprising:

a capping assembly which is supported at each end by a bearing molding; each bearing molding having a pair of vertical rails;

the four vertical rails enabling the capping assembly to move vertically.

19. The assembly of claim 18, wherein:

a spring under either end of the capping assembly biases the assembly into a raised position, maintaining a cam in contact with a spacer projection;

the printhead chips being capped when not is use by a full-width capping member using an elastomeric seal 86.

20. The assembly of claim 14, wherein:

the platen assembly is rotated by reversing a main roller drive motor thus bringing a reversing gear into contact with a gear on the end of the platen assembly and rotating it into a functional position.